

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

LG DISPLAY CO., LTD.,

Plaintiff,

v.

CHI MEI OPTOELECTRONICS  
CORPORATION, et al.

Defendants.

Civil Action No. 06-726 (JJF)

Civil Action No. 07-357 (JJF)

**CONSOLIDATED CASES**

**DECLARATION OF DR. ALLAN R. KMETZ**

I, Allan R. Kmetz, hereby declare as follows:

1. I am a citizen of the United States, and reside at 50 Edgewood Road, Chatham, NJ 07928. I have been retained as an expert in this matter by McKenna Long & Aldridge LLP on behalf of LG Display Co., LTD.

2. In 1961, I received a Bachelor's degree in Electrical Engineering from Yale University. In 1963 and 1969, I received a Master's degree and a Doctoral degree, respectively, in Engineering from Yale University. Since 1970, I have worked in the field of Liquid Crystal Display technology. Most recently, I was employed for approximately twenty years at Bell Laboratories in Murray Hill, New Jersey. My curriculum vitae is attached as Exhibit A.

3. I have reviewed U.S. Patent No. 5,619,352 ("the '352 patent") and the opening claim construction briefs filed by LGD and CMO relating to this patent.

4. The '352 patent describes at 3:18-20 that liquid crystal in a TN-LCD device exhibits positive birefringence, and Figure 8 and disclosures at 7:51-59 of the '352 patent define the positive and negative vertical viewing angle directions relative to a TN-LCD device. The

compensation principle of an O-plate for a partially turned-on TN-LCD device in the negative vertical viewing angle direction described at 8:27-42 indicates that both the O-plate and A-plate are positive birefringent. Also, the compensation principle of the O-plate in the positive vertical viewing angle direction described at 8:16-26 agrees that the O-plate is positive.

5. Those skilled in the art recognize the cylinders in Figures 12, 13 and 14 of the '352 patent as representing the local refractive index indicatrix of materials with positive optical anisotropy. In contrast, materials with negative optical anisotropy are recognized to have disk-like indicatrix.

6. The '352 patent at 7:41-61 describes two publications to explain existing biaxial inorganic O-plate compensators with an obliquely deposited thin film: Motohiro and Taga, Thin Film Retardation Plate by Oblique Deposition, Appl. Opt., vol. 28, No. 13, Pages 2466-2482, 1989; and Macleod, Structure-related Optical Properties of Thin Films, J. Vac. Sci. Technol. A, Volume 4, No. 3, Pages 418-422, 1986. The inorganic compensators described in these two publications are positive birefringent, which indicates that the '352 patent is directed to a positive O-plate, because the purpose of the '352 patent is to duplicate the performance of existing biaxial inorganic O-plate compensators (10:55-59).

I declare under penalty of perjury under the laws of the United States America that the foregoing is true and correct.

Executed on September 4, 2008.

  
Allan R. Kmetz

# **EXHIBIT A**

**ALLAN R. KMETZ**

(pronounced Mets)

50 Edgewood Road  
Chatham, NJ 07928  
(973)635-1907

US citizen

**EMPLOYMENT**

5/2003-present	Independent consultant for display technology and intellectual property	
2001-5/2003 (retired)	Agere Systems (Lucent spinoff) Berkeley Heights, NJ	Manager, Intellectual Property Division
1999-2001	Lucent Technologies Liberty Corner, NJ	Manager, Intellectual Property Business
	Technical support for patent assertion: evaluation of patent portfolios with reference to industry practice to assess licensing potential; reverse engineering to find infringement, especially in optoelectronics and display technology.	
1996-1998	Bell Labs Lucent Technologies Murray Hill, NJ	Distinguished Member of Technical Staff
	Qualified vendors and advised product designers on display requirements and capabilities, trouble-shooting LCD problems in cellular phones, electronic price labels, screen phones while tracking/assessing display R&D worldwide.	
1993-1995	AT&T Bell Laboratories Murray Hill, NJ	Distinguished Member of Technical Staff
	Joined the newly created Display Research Department, with responsibility for LCD design, analytical simulation and electrooptical characterization of AMLCD performance, research on new display effects. Project manager for development of novel integrated touch screen. (A major reorganization of AT&T created Lucent Technologies, which took Bell Labs, and divested NCR. Separated from its laptop market, the AMLCD program was terminated at the end of 1995.)	
1980-1993	AT&T Bell Laboratories Murray Hill, NJ	Supervisor/Technical Manager
1987-93	Supervised design, fabrication and characterization of monolithic InP LED arrays for OPTOPAK, a parallel synchronous data link incorporating optical fiber ribbon. Managed development of assembly and testing processes for the low-cost manufacture of uncooled laser capsules for fiber-optic data links, including reliability assurance and ISO9001 certification. Responsible for delivery commitments until process transferred to Reading factory by year-end 1991. Project manager for establishment in Reading of what was probably the world's first 2-inch wafer processing facility for InP lasers.	
1980-86	Managed the Liquid Crystal Display Development Group with three principal areas of activity: 1) demonstrated active-matrix LCDs addressed by two-terminal MIM devices with good performance and few defects, using a simplified two-mask process with liftoff for low parasitic capacitance; 2) explored unconventional liquid-crystal effects to advance the state of the art, initially with guest-host displays and later with frequently cited contributions to alignment and switching of ferroelectric LCDs; 3) supported the use of LCDs by	

AT&T product designers, building prototypes such as electronically labeled pushbuttons for the Universal Operator Console and coordinating specifications and volume sourcing to put LCDs in repertory dialer phones.

1978-1980 Bell Laboratories Member Technical Staff  
Murray Hill, NJ  
Established LCD capability in Bell Labs. Invented addressing/interconnection scheme for pseudoanalog LCDs.

1974-1978 Brown Boveri Research Center Member of Research Staff  
Baden, Switzerland  
Analyzed and improved matrix addressing techniques and developed fabrication technology for multiplexed LCDs. Key papers on LCD thickness measurement (widely used wedge method), generalized matrix addressing (basis of Scheffer's 1992 "active addressing" breakthrough). Products include BBC process controller with LCD bargraph, Metrawatt flat-panel oscilloscope.

1969-1974 Texas Instruments Member Technical Staff  
Dallas, TX Central Research Laboratories  
Explored liquid crystals for displays, especially dynamic scattering and ECB, publishing the first analysis of matrix addressing with RMS response and seminal model of surface alignment mechanism. Also investigated application of gadolinium molybdate to ferroelectric memory and spatial light modulators for holographic memory; developed CCD imagers, memories.

#### EDUCATION

BEE 1961 Yale University  
MEng 1963 New Haven, CT  
DEng 1969 Thesis advisor: R C Barker

#### PUBLICATIONS AND PATENTS

Author of numerous technical papers in various reviewed journals, dealing with displays, especially liquid-crystal displays, as well as magnetics, ferroelectrics and charge-coupled devices. Editor with F. K. von Willisen of **Nonemissive Electrooptic Displays**, Plenum 1976. Sixteen issued US patents and 47 foreign patents.

#### MEMBERSHIPS AND DISTINCTIONS

President of the Society for Information Display 2002-2004, SID Fellow, associate editor *JSID*, member Honors and Awards Committee, Long-range Planning Committee, SID International Symposium seminars chair 1981, program chair 1986, executive committee 1994-6, Mid-Atlantic Chapter officer 1982-5 and 1994-6; IEEE Senior Member; Biennial Display Research Conference (IDRC) program chairman 1980, general chairman 1982; member APS, OSA, Tau Beta Pi, Sigma Xi; advisory editor of British journal *Displays* 1980-7; keynote speaker Japan Display 1983; plenary speaker IEDM 1986; co-chairman Optoelectronics Industry Development Association Display Technology Workshop, March 2-3, 1993.

**CERTIFICATE OF SERVICE**

The undersigned counsel certifies that, on September 4, 2008, he served the foregoing documents by email and by hand upon the following counsel:

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The undersigned counsel further certifies that, on September 4, 2008, he served the foregoing documents by email and by U.S. Mail upon the following counsel:

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